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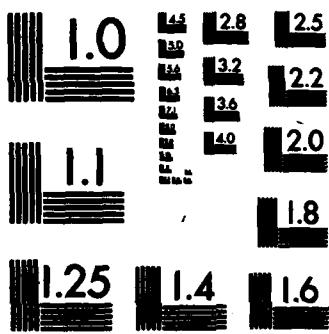
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NAVAL INTELLIGENCE SUPPORT CENTER

TRANSLATION DIVISION NISC-62

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PIERRE LOTI AND METEOROLOGY

[Darchen, J.; Pierre Loti et la Météorologie, Cols Bleus, 12 April 1982,
pp. 11-15; French]

It's amazing how the famous mariners of old travelled about! /11*

Numerous indeed are the narratives of 19th century mariners recalling interminable voyages and distant cruises stretching out for years, so much that the mission to the Dardanelles, so common before 1920, was truly a simple cakewalk. [A line of original text is missing at this point on the Xerox copy]...of the Navy, the ship's watch officer or the seaman before the mast was frenetically changed into a fairly enlightened antiquarian, collecting according to his inspiration and resources and for the astonishment of future generations, gilded Chinese porcelain figures from Saigon, an ebony table with elephant feet carved in Colombo, and a folding screen delicately decorated in Shanghai or Yokohama.

[A line of original text is missing at this point on the Xerox copy] ...an old campaigner in meteorology, was received by the International Association of the Friends of Pierre Loti, having completely reread, as is required, the works of the "magician of letters", he thought to pass his entrance examination without meeting any resistance by composing a little work intended to convey, in modern meteorological language, some quotations from Julien Viaud, naval officer [a line of original text is missing at this point on the Xerox copy]...description of the weather encountered across meridians and parallels. Lieutenant Commander Pierre Sizaire, president of the Association and former "Chief" of meteorological vessels, could only approve of this project.

Alas! Pen in hand and works of the master opened anew, it was necessary first of all to change one's tune a little. Pierre Loti, in effect, yielded only timidly to Julien Viaud; in other words, the refined poet took the lead from the crude man of the sea. In order to keep this intention, it was necessary not to refer to My Brother Yves or to Iceland Fisherman but to seek elements of the weather revealed in all its severity in the navigation logs recorded day-by-day by the officer of the watch on board the FLORE, the FRIEDLAND, or the ATALANTE.

And yet it is true that after a long reading of Loti, one at last feels this intimate contact with the elements, these touches always responsive to the heart of those who have sailed for a long time, even though the descriptions of the great storms and sea state do not remain /12 very clear. Feeling predominates over form. Marcel Proust does not conceal the fact that he owes much to Loti.

It is thus in this spirit that we have placed our project in hand.

*Numbers in right margin indicate pagination in original text.

The exhibition at the Navy Museum of "100 Sketches by Pierre Loti" reminds us just what a prodigious ocean voyager our academician was and how numerous for him were the opportunities to describe the pleasantness of the tropics and the rigors of the north.

The Doldrums...

Crossing the equator several times in each of the great oceans, he had to face the classical and formidable difficulties formerly encountered by sailing ships, those called the "doldrums". Thus, when he tells us "...we are approaching the equator, and the regular trade winds began to die down. It was now the unsteady breezes which were changing, and then moments of calm in which everything was immobilized..."

"Heavy, dark storm clouds drifted over the warm sea like huge black curtains. The equator was very close" (My Brother Yves); we'd be well tested even today to paint a more descriptive commentary.

In transequatorial navigation, all ships necessarily pass through a fairly narrow geographical band, in the midst of which relative low-pressure areas prevail between the trade winds which blow in each hemisphere. Formerly, sailing vessels, hopelessly becalmed, watched for the slightest breeze capable of getting them moving. Moreover, these breezes would spring up most often in the form of squalls, violent but short-lived, occasioned by powerful clouds, cumulonimbus in nature, reaching up to some 15 km in altitude, formed in series in the midst of the "doldrums", following a pattern which is well known to us today due to satellite surveillance.

Several decades before Pierre Loti, a seafarer as incidental as he was illustrious had experienced the difficulties of the passage through the equatorial zone. Napoleon, en route to St. Helena on board the NORTHUMBERLAND, could indeed observe that "...coming from Europe, you begin to hit these winds, they blow from the northeast; the closer you get to the Line [Equator], they become more easterly; below the Line calms are generally to be feared..." (Les Cases - Memoirs of St. Helena).

It should be noted that the phenomenon is present in all the oceans, and Loti encountered it several times in the Atlantic as well as the Pacific and also in the Indian Ocean.

...And Westerly Furies

The necessity of reaching distant areas during an era (A line of original text is missing at this point on the Xerox copy)...when the Suez and Panama Canals were not yet constructed, caused many seafarers formerly to submit to the rigors of the Southern Hemisphere at the latitudes of Cape Horn. /13

What uneasiness, then, for Ensign Vialaud, who sees his brother Yves and his fellow seamen suffering aloft: "...it was the onset of high winds and heavy swells; we had just entered the rough seas of the south, in the middle of which it was going to be necessary to struggle and go forward in spite

of everything...And the further we advanced into the somber ocean, the stronger the wind became and the more enormous the swells were..." (My Brother Yves).

Even today, these areas are but poorly explored; however, it is possible, thanks to our knowledge of the general circulation of the atmosphere, satellite observations, and fairly solitary seafarers who periodically tackle them, to delineate in general outline the conditions which prevail there.

We thus know that this maritime geographic band which encircles the globe at the latitudes of the south 50s is pervaded with violent winds which build up waves with characteristics different from those of the Northern Hemisphere, being higher, longer and, despite this, often breaking.

Loti lets us understand these conditions, but the reader must have a bit of imagination, unlike the rare but precise accounts reported by Dumont d'Urville on the same waters--within a scientific context, to be sure.

Phenomenal Waves

Loti has likewise made us, through certain descriptions, touch on phenomena scarcely understood even today: "...sometimes the MEDEE would ascend, and rise above them, as if seized, she also, with rage against them. And then she would always fall back, the bow forward, into the treacherous troughs which were behind them, she reached the depths of the valley of a sort which...(a line of original text is missing at this point on the Xerox copy)...of high walls of water..." (My Brother Yves).

With lines such as this, we can't help thinking about what are referred to as "phenomenal waves", still scarcely studied yet frequent in certain regions like the South African coast. These formidable undulations are obviously due to interference between swells of differing periods and directions; waves of an exceptional height are thus witnessed, each rapidly followed by a trough of no lesser dimension and in which ships, not having time to climb back to the crest, are jolted with staggering blows by the heavy seas which batter and break them up, damaging the bridge right up to the overhead (radio and radar antennas). Numerous shipwrecks are due to these phenomenal waves.

End of a Legend

Pierre Loti undoubtedly contributed, perhaps involuntarily, to causing the meteorological legend of the eastern seas to disappear. Indeed, whereas, with colonial expansion, the Frenchman was beginning, during the second half of the 19th Century, to be less ignorant of geography, he still had a hard time imagining that anyone could be Persian--and that the seas to the south of his own area could be other than a cobalt blue vaguely caressed by perfumed tradewinds. (a line of original text is missing at this point on the Xerox copy)...to discover that "an icy rain was streaking the air in long white arrows, slashing and stinging like the blows of a lash. We had headed north, up along the Chinese coast, and this unexpected cold took hold of us" (My Brother Yves).

The Frenchman thus learned, with a vague sense of satisfaction and redress of an injustice, that at the other end of the earth, Mrs. Plum was often trotting about the streets of Tokyo in a pouring rain, while protecting the bun in her hair from the insolence of the inconsiderate winds, that little Rarahu was uneasy about the clouds which too frequently crowned the majestic peaks of Moorea or yet again that a cold harsh north wind /14 occasionally blows across the Bosphorus so as to thwart forbidden loves.

Monsoon

Accounts of monsoons are relatively rare in Loti's best-known works: "rain, in torrents, under a heavy and very black sky, that was India...", or again, "the wind which was driving this rain smelled of musk and flowers..." (Iceland Fisherman).

To tell the truth, the working of monsoons was already well known during this period; this seasonal reversal had already been wisely utilized by Arab seafarers for many centuries.

Is it in connection with the violent winds of the monsoon that Loti conjures up the episode of the birds? It's not known. "...He was much amused by the flocks of small birds of unknown species which came to land on the ship..." (Iceland Fisherman). This kind of encounter is not rare. What seafarer has not one day noticed one or several birds becoming stranded on board, gathering together in a corner of the bridge or perching on a hand rail, exhausted and trembling, fleeing the apocalypse of winds too strong for their overly frail wings, delighting in a precarious repose before a fatal flight?

Pierre Loti was, without a doubt, strongly impressed by these little dramas of the sea because one of his most celebrated sketches is precisely "Sailors and Dead Birds".

From Easter Island...

Pierre Loti has left us some splendid sketches of Easter Island, that small island lost in the middle of the southeast Pacific. What a voyage during that time, and even today, and what a prodigious reporter! The difficulties of sailing in order to reach this inhospitable land can be imagined: doldrums, tropical calms, adverse winds...

Nowadays, little enough is still known about the southeast Pacific; it's a regrettable gap, since investigators suspect that this area assumes a major importance in the origin of numerous phenomena. Thus, it does seem that the anticyclone often spoken of as an "Easter Islander" is affected by a kind of "respiration" which more or less regularly causes its central atmospheric pressure to fluctuate in significant fashion. It would appear that this movement reverberates on the general circulation, both atmospheric and oceanic, not only locally but also on a global scale.

Let's remain in the waters of the immense Pacific in order to show that during Loti's time one did not hesitate to alter course by many miles

in order to reach one's destination under more favorable conditions: "...sailed from San Francisco ...we return to Europe via the southern part of America, Cape Horn, and the Atlantic Ocean; Tahiti is on our route in the Pacific..." (The Marriage of Loti).

A glance at the globe shows that the San Francisco-Cape Horn passage via Tahiti does not exactly constitute the shortest geographic route. On the other hand, if we place a tracing on the nautical chart representing the mean meteo-oceanic circulation, it can be seen that this track corresponds to what today is referred to as the optimum meteorological route: San Francisco-Tropic of Cancer with the trade winds (northeast) and sea (a line of original text is missing at this point on the Xerox copy)...of the doldrums; Tahiti-Cape Horn with trade winds (southeast) initially, /15 contrary, to be sure, but steady, permitting constant sailing at close to wind speed, then winds from astern upon reaching the latitudes where the "western furies" reign.

From all evidence, Pierre Loti could hardly have overlooked the works of M. F. Maury and the considerable help given to navigation by the Sailing Directions.

...To Iceland*

*The International Association of the Friends of Pierre Loti numbers among its members Mme. Vigdis Finnbogadottir, President of the Republic of Iceland, who holds a French bachelor's degree and is the author of a thesis on Pierre Loti.

The backdrop, harsh and bitter, before which certain heroes of Loti developed, was already known to the French; Iceland had always been, from memory of the Breton fisherman, a region of hard work where realities accommodated themselves to legends. Therefore, Iceland Fisherman was to be welcomed by a receptive and enthusiastic public.

Our meteo-oceanic knowledge of these (a line of original text is missing at this point on the Xerox copy)...has been advanced; satellites give us "running" images which reveal cloud formations, the extend of the ice pack, and sea temperature. Could you imagine the reactions of a Loti witnessing the performance of these devices which provide a worldwide survey: disarray, disenchantment...?"

(a line of text is missing at this point on the Xerox copy)... new poetic form?

For let us not be mistaken, if Pierre Loti often expressed himself as a poet, he remained no less, due to his profession, a scientist. Yesterday as today, complete knowledge of the ship and of the conditions of the ... (a line of text is missing at this point on the Xerox copy)...demands qualities of scientific rigor and thorough objectivity. Here undoubtedly

is a hidden side of Pierre Loti--we don't doubt he was able to usefully express himself in an original manner, allowing for a subtle impressionism and for a scientism which then raged without any subtlety.

Thus when Loti wrote, "...these nights were swooning with warmth, full of phosphorus, and all this dim immensity was smoldering with light, and all these waters enclosed latent life in the rudimentary stage, as of old the gloomy waters of the primitive world..." (My Brother Yves), the reader is overwhelmed by what these words reflect of scientific intuition and an admiring humility in regard to life.

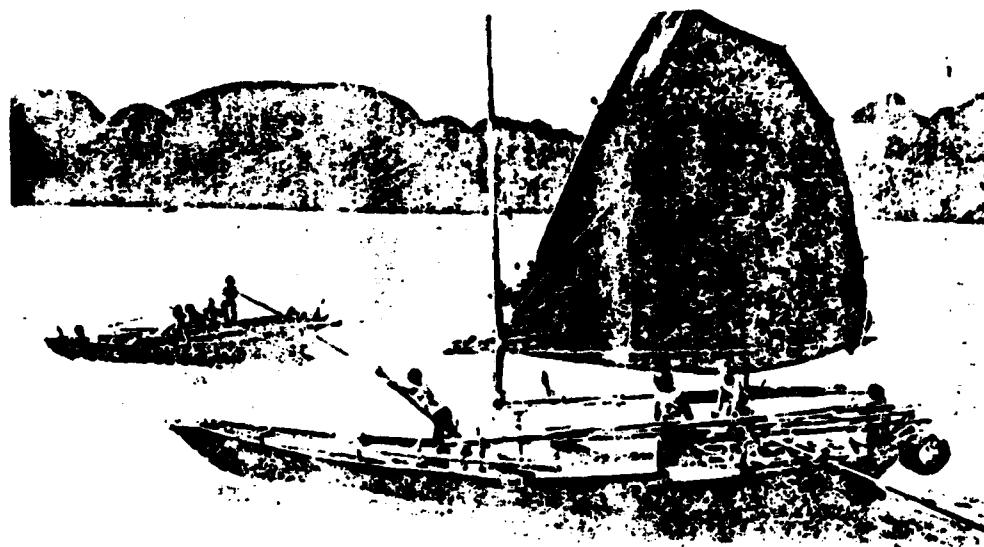


The doldrums, marked by powerful clouds, generators of violent squalls, also engender calms which seem interminable for ships with sails flapping idly, limp, for days, indeed, for weeks. The doldrums gird the entire globe within their maritime zone. Here, this satellite view shows the Atlantic section of the phenomenon with its characteristic cloud formations which cross the ocean from Africa to South America (French Weather Service document).



"...she fell...into treacherous troughs...she reached the depths of this sort of valley which was seen opening up, steep, between high walls of water..."

Course maintenance for the great sailing ships was rendered even more difficult by crossing seas. Here, a swell, long and high, of distant origin, heading away from the left upper corner of the photograph toward the right lower corner, interferes with shorter waves, oriented from the left toward the right, driven by the local wind. The sea, in such a case, shows transverse moments and the waves become breakers.



The young Sylvestre Moan - of Iceland Fisherman - could hardly suspect that many French seafarers would come to know in their turn, in the course of time, the spendors and difficulties of Along Bay.

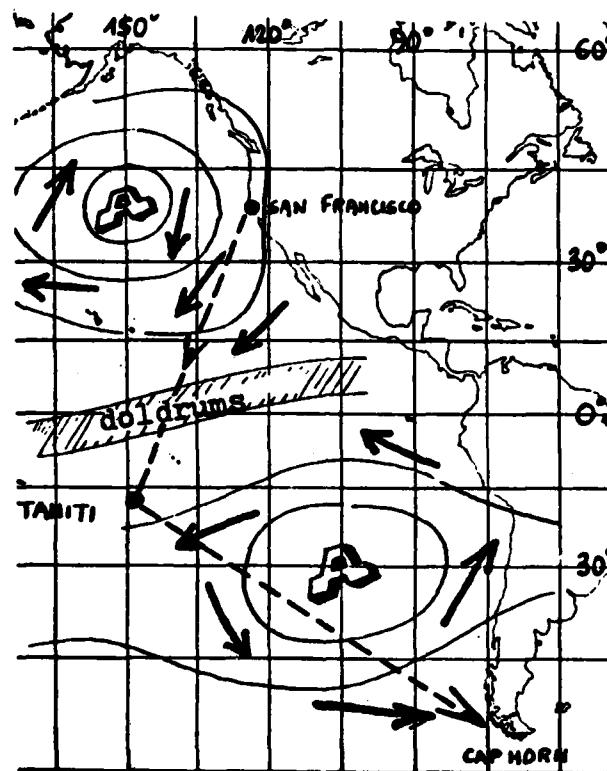


"An icy rain was streaking the air in long white arrows... heading north...along the Chinese coast..."

The bad weather which prevails in the middle latitudes of the northwest Pacific is often caused by the meeting of cold air originating on the Asian continent with air which has been warmed and humidified by the major sea current coming from the south, which flows close to Japan. In this satellite photograph, picked up in infrared, this warm current, the Pacific counterpart to our own Gulf Stream, can clearly be seen appearing in dark tones, in contrast to the icy waters located to the north, which stand out in light tones (NOAA document).



For the "Iceland Fisherman" or any other, yesterday as today, it is not good to fall into a trough of the sea in heavy weather (I.S.T.P.M. [Scientific & Technical Institute for Ocean Fishing] photo).



"Sailed from San Francisco...we return via Cape Horn...Tahiti is on our route..." (The marriage of Loti). A glance at the map shows us that this course is short only ...meteorologically, permitting a large sailing vessel to profit to the maximum from favorable winds: San Francisco--15°N--northeast trade winds, equatorial zone = passage always difficult through the doldrums, Tahiti-Cape Horn = initially trade winds from the east, then a following wind to the latitudes of the "western furies".

Our mariners of old sailed, by instinct, by meteorological navigation.



At the time of the "Iceland Fisherman", the risk was great for a dory, working the banks, of being overtaken by a thick fog or heavy weather and no longer being able to get back aboard (sketch by J.P. Bullier).



An overall view of Iceland and its surroundings as undoubtedly Pierre Loti never imagined it. This satellite image shows us a great variety of geographic details of the island with its delicately carved coasts. In the north, the glacial ice pack appears clearly, crackled and jagged. Elsewhere, thin cloud formations are a prelude to the arrival of heavy weather from the west (French Weather Service document).

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